

Serial No. 09/187,370

TRW Docket No. 22-0009

receiving a request for service from a user terminal;

accessing at least one communications system parameter selected from a group of communications system parameters (including) current active user terminal parameters, antenna pattern parameters including illumination patterns, spacecraft/antenna pointing error parameters including antenna offset errors, and link condition database parameters including adverse weather condition information;

determining a connection parameter to minimize intra-system interference based upon the selected communications system parameter for the user terminal;

allocating the connection parameter to this user terminal; and

making a communications connection with the processing communication satellite by the user terminal using the connection parameter.

4. (Amended) The method as defined in claim 1 wherein said active user terminal parameters includes locations of each active user terminal and frequency channels and time slots allocated to active user terminals.

8. (Amended) The method as defined in claim 1 wherein the connection parameter is a frequency channel.

10. (Amended) The method as defined in claim 1 further comprising updating the group of communications system parameters after the communications connection ends.

11. (Amended) A satellite based cellular communications system for servicing multiple user terminals, said satellite based cellular communications system comprising:

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a processing communications satellite, said processing communications satellite supporting communications uplinks and communications downlinks between the multiple user terminals; and

PS a network operations center having a central control processor, said network operations center communicating with said processing communications satellite on said communications uplinks and said communications downlinks, said central control processor minimizes intra-system interference between the multiple user terminals by selecting appropriate frequency channel and time slots for each active user terminal to provide maximum distances between user terminals operating on the same frequency channel and time slot.

SS 14. (Amended) The satellite based cellular communications system as defined in claim 11 wherein said central control processor further minimizes intra-system interference by using a plurality of known communications system parameters includes user database parameters, antenna pattern parameters, spacecraft/antenna pointing error parameters, and link condition database parameters.

15. (Amended) The satellite based cellular communications systems as defined in claim 14 wherein said central control processor periodically re-allocates said connection parameters to each user terminal based upon an updated plurality of communications system parameters.

PS 17. (Amended) The method as defined in claim 19 further comprising redetermining the frequency channel and time slot allocation after a determination is made that the communications connection is still active.

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19. (Amended) A method for interference management a communications system servicing multiple user terminals, said method comprising:

receiving a request for service from a user terminal;

accessing a plurality of known communication system parameters from a user database, antenna pattern database, spacecraft/antenna pointing error database and link condition database;

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determining a frequency channel and time slot parameter allocation for the user terminal to minimize intra-system interference based upon the plurality of communications system parameters;

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allocating the frequency channel and time slot parameter to the user terminal;

making a communications connection by the user terminal using the frequency channel and time slot parameter;

periodically redetermining the frequency channel and time slot parameter allocation for the user terminal to continue to minimize intra-system interference; and

updating the databases after the communication connection has ended.

20. (Amended) The method as defined in claim 19 comprising including within the plurality of communications system parameters location of active user terminals and frequency channel and time slots allocated to the active user terminals.